

## Safety Data Sheet acc. to OSHA HCS

Date of issue: 05/13/2026

Revision date 05/13/2026

### 1 Identification

- **Product identifier**
- **Trade name: Anti-Citrulline Monoclonal Antibody (Clone 1D9)- HRP Conjugated**
- **Other means of identification**
- **Article number:** 44511
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Sensitization - respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Sensitization - skin 1 H317 May cause an allergic skin reaction.

Aquatic Acute 2 H401 Toxic to aquatic life.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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## · Hazard pictograms



GHS08 GHS09

## · Signal word Danger

## · Hazard-determining components of labeling:

Proclin 300

Trade Secret

## · Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

## · Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P272 Contaminated work clothing must not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P284 [In case of inadequate ventilation] wear respiratory protection.

P302+P352 If on skin: Wash with plenty of water.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P321 Specific treatment (see on this label).

P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

## · Information pertaining to particular dangers for man and environment:

## · Classification system:

## · NFPA ratings (scale 0 - 4)



Health = 0

Fire = 1

Reactivity = 0

## · HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 1

Reactivity = 0

## · Other hazards

## · Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

## · Classification according to (d)(1)(ii) of § 1910.1200

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

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**· Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

## 3 Composition/information on ingredients

**· Chemical characterization: Mixtures**

**· Description:** Mixture of the substances listed below with nonhazardous additions.

**· Dangerous components:**

|                                     |              |          |
|-------------------------------------|--------------|----------|
| CAS: 56-81-5<br>RTECS: MA8050000    | Glycerol     | 50.0%    |
|                                     | Trade Secret | ≥0.1–<1% |
| CAS: 55965-84-9<br>RTECS: NX8157050 | Proclin 300  | 0.05%    |

**· Other ingredients**

|                                    |                                |         |
|------------------------------------|--------------------------------|---------|
| RTECS: ZC0110000                   | Water                          | 49.626% |
|                                    | Mouse IgG                      | 0.1%    |
| CAS: 7558-79-4<br>RTECS: WC4500000 | Sodium phosphate, Dibasic      | 0.072%  |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 0.04%   |
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 0.012%  |

**· Additional information:**

The specific chemical identity of composition and exact percentage is being withheld as a trade secret. The specific chemical identity and exact percentage is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of paragraph §1910.1200.

## 4 First-aid measures

**· Description of first aid measures**

**· General information:** Immediately remove any clothing soiled by the product.

**· After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**· After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**· After eye contact:** Rinse opened eye for several minutes under running water.

**· After swallowing:** If symptoms persist consult doctor.

**· Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**· Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Use fire fighting measures that suit the environment.  
A solid water stream may be inefficient.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 56-81-5   | Glycerol                       | 45 mg/m <sup>3</sup>  |
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |

### · PAC-2:

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 56-81-5   | Glycerol                       | 180 mg/m <sup>3</sup> |
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |

### · PAC-3:

|           |                                |                         |
|-----------|--------------------------------|-------------------------|
| 56-81-5   | Glycerol                       | 1,100 mg/m <sup>3</sup> |
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup>   |

### · **Reference to other sections**

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

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- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

**56-81-5 Glycerol**

PEL Long-term value: 15\* 5\*\* mg/m<sup>3</sup>  
mist; \*total dust \*\*respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Appropriate engineering controls** No further data; see section 7.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Liquid

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|                                                                                 |                                                                 |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------|
| · Color:                                                                        | According to product specification                              |
| · Odor:                                                                         | Characteristic                                                  |
| · Storage Buffer                                                                |                                                                 |
| · Odor threshold:                                                               | Not determined.                                                 |
| · Formulation                                                                   | 100 µg of HRP-conjugated protein G-purified monoclonal antibody |
| · Melting point/Melting range:                                                  | Undetermined.                                                   |
| · Boiling point/Boiling range:                                                  | 100 °C (212 °F)                                                 |
| · Flammability:                                                                 | Not applicable.                                                 |
| · Explosion limits:                                                             |                                                                 |
| · Lower:                                                                        | Not determined.                                                 |
| · Upper:                                                                        | Not determined.                                                 |
| · Flash point:                                                                  | 199 °C (390.2 °F)                                               |
| · Auto igniting:                                                                | 400 °C (752 °F)                                                 |
| · Decomposition temperature:                                                    | Not determined.                                                 |
| · pH-value at 20 °C (68 °F):                                                    | 7.2                                                             |
| · Viscosity:                                                                    |                                                                 |
| · Kinematic:                                                                    | Not determined.                                                 |
| · SOLUBILITY                                                                    |                                                                 |
| · Dynamic:                                                                      | Not determined.                                                 |
| · Solubility in / Miscibility with                                              |                                                                 |
| · Water:                                                                        | Fully miscible.                                                 |
| · Partition coefficient (n-octanol/water):                                      | Not determined.                                                 |
| · Vapor pressure at 20 °C (68 °F):                                              | 23 hPa (17.3 mm Hg)                                             |
| · Vapor pressure at 50 °C (122 °F):                                             | ~0 hPa                                                          |
| · Density:                                                                      | Not determined.                                                 |
| · Relative density                                                              | Not determined.                                                 |
| · Vapor density                                                                 | Not determined.                                                 |
| · Particle characteristics                                                      | Not applicable.                                                 |
| · Other information                                                             |                                                                 |
| · Appearance:                                                                   |                                                                 |
| · Form:                                                                         | Liquid                                                          |
| · Important information on protection of health and environment, and on safety. |                                                                 |
| · Ignition temperature:                                                         | Product is not selfigniting.                                    |
| · Danger of explosion:                                                          | Product does not present an explosion hazard.                   |
| · Solvent content:                                                              |                                                                 |
| · Organic solvents:                                                             | 99.6 %                                                          |
| · VOC content:                                                                  | 49.63 %<br>496.3 g/l / 4.14 lb/gal                              |
| · Solids content:                                                               | 0.3 %                                                           |
| · Change in condition                                                           |                                                                 |
| · Evaporation rate                                                              | Not determined.                                                 |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.

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- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 56-81-5 Glycerol

|                    |                      |                             |
|--------------------|----------------------|-----------------------------|
| Oral               | LD50                 | 12,600 mg/kg (rat)          |
| Irritation of skin | Irritation           | 500 mg/24h (rabbit)<br>mild |
| Irritation of eyes | Irritation           | 500 mg/24h (rabbit)<br>mild |
|                    | Intraperitoneal LD50 | 4,420 mg/kg (rat)           |
|                    | Subcutaneous LD50    | 100 mg/kg (rat)             |

### 55965-84-9 Proclin 300

|      |      |                |
|------|------|----------------|
| Oral | LD50 | 53 mg/kg (rat) |
|------|------|----------------|

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Interactive effects** No interactive effects between components are known.
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Alternative sources for toxicological information**

No non-standard sources for toxicological information where used.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

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- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects**

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA** not regulated

- **UN proper shipping name**

- **DOT, IMDG, IATA** not regulated

- **Transport hazard class(es)**

- **DOT, ADN, IMDG, IATA**

- **Class** not regulated

- **Packing group**

- **DOT, IMDG, IATA** not regulated

- **Environmental hazards:** Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

- **Special precautions for user** Not applicable.

- **UN "Model Regulation":** not regulated

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

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· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

|           |                                |        |
|-----------|--------------------------------|--------|
| 56-81-5   | Glycerol                       | ACTIVE |
|           | Water                          | ACTIVE |
|           | Trade Secret                   | ACTIVE |
| 7558-79-4 | Sodium phosphate, Dibasic      | ACTIVE |
| 7647-14-5 | Sodium chloride                | ACTIVE |
| 7778-77-0 | Potassium phosphate, Monobasic | ACTIVE |

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

· **Department issuing SDS:** Environment protection department.· **Contact:** -· **Date of previous version** 11/04/2025· **Date of preparation** 05/13/2026· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Sensitization - respiratory 1: Respiratory sensitisation – Category 1

Sensitization - skin 1: Skin sensitisation – Category 1

Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· **\* Data compared to the previous version altered.**

US